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APPLICATION NO.

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08/904,312 07/31/97 KAWAI

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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.****Commissioner of Patents and Trademarks**

## Office Action Summary

Application No. 08/904,312	Applicant(s) Kawai et al.
Examiner LEE NGUYEN	Group Art Unit 2746

Responsive to communication(s) filed on Jun 29, 2000

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claim

- Claim(s) 1-16, 19-24, and 27-50 is/are pending in the application.  
Of the above, claim(s) 39-50 is/are withdrawn from consideration.  
 Claim(s) \_\_\_\_\_ is/are allowed.  
 Claim(s) 1-16, 19-24, and 27-38 is/are rejected.  
 Claim(s) \_\_\_\_\_ is/are objected to.  
 Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.  
 The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.  
 The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.  
 The specification is objected to by the Examiner.  
 The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
 All  Some\*  None of the CERTIFIED copies of the priority documents have been  
 received.  
 received in Application No. (Series Code/Serial Number) \_\_\_\_\_  
 received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- Notice of References Cited, PTO-892  
 Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_  
 Interview Summary, PTO-413  
 Notice of Draftsperson's Patent Drawing Review, PTO-948  
 Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### *Continued Prosecution Application*

1. The request filed on 6/29/2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/904,312 is acceptable and a CPA has been established.

An action on the CPA follows.

2. This office action is responsive to the communication filed 10/18/99.

3. Claims 17-18 and 25-26 have been canceled. Claims 1-16, 19-24, 27-38, 39-50 remain in prosecution.

### *Election/Restriction*

4. Newly submitted claims 39-50 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: new limitation in claims 39-50 is distinct among other distinct inventions disclosed in the present specification pages 2-5.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits.

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Accordingly, claims 39-50 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said plural number of times" in line 12. There is insufficient antecedent basis for this limitation in the claim. The plural request **signals** are **not** the plural number of **times**.

Claim 7 recites the limitation "said plural number of times" in line 11. There is insufficient antecedent basis for this limitation in the claim. The plural request **signals** are **not** the plural number of **times**.

Dependent claims 6 and 8 are rejected for the same reason.

*Claim Rejections - 35 USC § 103*

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 19-23, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) in view of Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 19-23, Spragins teaches an apparatus and method for receiving data from a primary station, comprising receiving said data I,0,0 (fig. 7.13b) and transmitting to the primary station at predetermined intervals (I,0,0 to I,2,0,P) in responsive to a polling signal P an error status signal REJ,1,F which indicates whether error correction information is required from the central station (page 328 section 7.6.3, figs. 7.13a-7.13b). Spragins does not explicitly teach that the

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primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Spragins in order to conserve system's bandwidth.

Regarding claims 21/19, 21/20, 24/22, 24/23, Spragins also teaches a plurality of frames I,0,0-I,2,0,P (fig. 7.13b). The high data level control link HDLC of Spragins provides the error correction request signal REJ,1,F (fig. 7.13b) indicating negative acknowledgment (NACK) or selected ones of frames which were not received correctly. Spragins differs from the claim invention in that the error correction request signal REJ,1,F (fig. 7.13b) can also indicate positive acknowledgment (ACK) or selected ones of frames which were received correctly. However, according to Spragins a secondary station can provide an error status signal that comprises either an error correction request signal indicating a frame which were not correctly received NACK4 (fig. 7.9) or a signal that indicates that no error correction is required ACK6 using Byte-Count-Oriented Protocols (pages 319-321). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Byte-Count-Oriented Protocols to the HDLC protocols in Spragins in order to allows piggybacking of positive acknowledgments and acknowledgment of multiple frames with one response.

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Regarding claims 27-30, Spragins teaches an apparatus and method for receiving data from a primary station, comprising receiving said data in a format comprising a sequence of frames (page 318, receive count of N frames); and transmitting signals to said primary station in a format including receive state information indicating the sequence number of the last in sequence of the received frames (page 318, supervisory frames can also be used for acknowledgments, receive count of 3), but not including a transmit state field (page 318, ACK and NACK frames each use a received count, but neither uses a send count). Spragins also teaches the frame format in Byte-Count-Oriented Protocols in Data Link Layer Protocols, page 316). Spragins does not explicitly teach that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Spragins in order to conserve system's bandwidth.

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman (U.S. 5,303,286) in view of Smolinske et al. (U.S. 5,487,068) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 1-4, Wiedeman teaches an apparatus for transmitting data relating to the status of user terminals in a mobile communications system from a central station 28 (fig. 2) having

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a database 20 as claimed to plurality of local stations 37, each having a local data base 27 as claimed, the apparatus comprising means for transmitting said data to each of said local stations 37. Wiedeman fails to take into account of error transmission when the central station transmits information in packets of frames to the local stations 37 which requires error detection in each local stations 37, wherein each local station 37 requests from the central station 28 for selective error correction and the central station 28 retransmits the selected frames in response. The concept of using a selectively automatic repeat request (selective repeat ARQ) for requesting a selected retransmission frame when error occurs from a local station to the central station is conventionally well known, which is taught by Smolinske. Smolinske teaches that when an error packet occurs the subscriber unit transmits a selective-repeat ARQ to the base station and the base station retransmits the selected packet to the subscribers (col. 2, lines 16-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the error detection and selected error correction of Smolinske to the system of Wiedeman in order to provide reliable packet level communication. Wiedeman does not explicitly teach that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Wiedeman in order to conserve system's bandwidth.

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10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 9-10, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in a common channel in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations and receiving from each of said local stations acknowledgment signals indicating the earliest in sequence of said frames which has not been received by that local station (col. 2, lines 36-42). Smolinske fails to explicitly teach that the selective repeat ARQ is implemented under high level data link format HDLC in which a new frame which has not previously been transmitted is transmitted only if a sequence order of said new frame is not greater than a sequence order of the earliest of said frames which has been indicated to but not have been received by any one of said receiving stations by a predetermined number. This technique is conventionally well known in the art, as taught by Spragins. Spragins teaches that a new frame I,2,0,P (fig. 7.13b) which has not previously been transmitted is transmitted only if the sequence order 2 of said new frame is less than a predetermined number 3 of frame I,3,0 greater than 1 the earliest of said frames I,1,0 which has not been received by any one of local stations (page 328, section 7.6.3, figs. 7.13a and 7.13b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Spragins to the apparatus of Smolinske

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in order to reduce transmission delay. Smolinske does not explicitly teach that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Smolinske in order to conserve system's bandwidth.

11. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of Ellis et al. (U.S. 5,497,371) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 11-12 and 14-15, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in a common channel in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations in response to the request signals (col. 2, lines 36-42). The frames of Smolinske inherently includes frame sequence information N(S) indicating the sequence of each frame and receive state information N(R) indicating the sequence of any frames received from any of the receive stations because it is implemented with selective repeat ARQ protocol in the HDLC layer which is ISO/IEC

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7809. Smolinske differs from the claim invention in that the frame does not include receive state information N(R) indicating the sequence of any frames. However, this technique is conventionally well known in the art, as taught by Ellis. Ellis teaches an HDLC format frame which includes the frame sequence number N(S) 4, but not including receive state information N(R) indicating the sequence of any frames (figs. 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ellis to the apparatus of Smolinske so that higher priority of information packets can be transmitted over a single communication link. Smolinske does not explicitly teach that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Smolinske in order to conserve system's bandwidth.

Regarding claims 13 and 16, Smolinske as modified fails to teach that the N(S) sequence number is eleven bits in length. A skilled artisan would find that providing the N(S) sequence number with 11 bits in length or any other lengths obvious because it is not critical in the invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the 11 bits in length to N(S) sequence number of Smolinske in order to reduce overhead signaling in the communication system.

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12. Claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman (U.S. 5,303,286) in view of Smolinske et al. (U.S. 5,487,068) and Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) and Ellis et al. (U.S. 5,497,371) and Fujikura et al. (US 4,901,313) submitted by Applicant .

Regarding claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30, Fujikura teaches the satellite broadcast communication as stated in the above rejection.

13. Claims 35/21, 36/24, 37/21 and 38/24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) and Wiedeman (U.S. 5,303,286) and Fujikura et al. (US 4,901,313) submitted by Applicant .

Regarding claims 35/21, 36/24, 37/21 and 38/24, Fujikura teaches the satellite broadcast communication as stated in the above rejection. Wiedeman also teaches the database of each received stations stores the status of user terminals as claimed (fig. 2 of Wiedeman).

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***Response to Arguments***

14. Applicant's arguments with respect to claims 1-16, 19-24, 27-38 have been considered but are moot in view of the new ground(s) of rejection.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Nguyen whose telephone number is (703) 308-5249. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang, can be reached on (703) 305-4895.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-6306, (for formal communications intended for entry)

**Or:**

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(703) 308-6296, (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive,  
Arlington. VA., Sixth Floor (Receptionist).

Lee Nguyen  
Primary Examiner

Lee Nguyen 9/8/00